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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,309	02/26/2004	Pyung-Lac Kim	IK-0062	3428
34610	7590	10/29/2007	EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/786,309

Applicant(s)

KIM, PYUNG-LAE

Examiner

Julie Anne Watko

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-22, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The indefinite rejections have been overcome by amendment.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 7 and 9-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Citizen (WO 03/017279 A1).

For convenience, the Examiner will refer to the text of English language equivalent EP 1426964 A1; however, the rejection is grounded upon the WIPO document.

As recited in claim 1, Citizen shows a flexible cable, comprising: a flexible cable main body 15 having one end (17 or 18) configured to connect to a first part (12 or 11) and the other end (18 or 17) configured to connect to a second part (11 or 12) on a side opposite to the first part and configured to transmit signals between the first and second parts, wherein at least one (12) of the first and second parts is movable; and a folded portion (see Fig. 3 between α and β) in the form of a portion of the cable main body folded so that two opposing faces are in contact with each other (see appearance of cable in Fig. 3), two strips of said cable extending from the folded portion in the same direction initially (see direction of 17 and 18 extending in Fig. 3), wherein movement of said at least one movable part of the first and second part is configured to occur between a first position and a second position (see Figs. 3-4) whereby corresponding

movement of said flexible cable main body is configured to occur only to one side (see Figs. 3-4) of the folded portion connected to the at least one movable part.

As recited in claim 7, Citizen shows that the cable main body is divided into a straight portion 18 and a curved portion 17 with respect to the folded portion and the curved portion 17 is relatively longer (see Fig. 3) than the straight portion 18.

As recited in claim 9, Citizen shows a flexible cable 15, comprising: a first end (17 or 18) configured to be connected to a first part (12 or 11) and a second end (18 or 17) configured to be connected to a second part (11 or 12), so as to transmit signals between the first and second parts, at least one (connected to 17) of the first and second parts being movable; and a folded portion (see Fig. 3 between α and β) in the form of a portion of the flexible cable between the first and second ends folded so that two opposing faces are in contact with each other (see appearance of folded portion in Fig. 3), wherein two strips of said cable extend from the folded portion in the same direction initially (see direction of 17 and 18 extending in Fig. 3) and the folded portion does not deviate from vertical alignment with the first part 14, and wherein said second end is vertically aligned with said second part 13.

As recited in claim 10, Citizen shows that movement of said at least one movable part 14 of the first and second parts is configured to reciprocally occur along a prescribed range between a first position (see Fig. 3) and a second position (see Fig. 4) whereby corresponding movement of a main body of said flexible cable is configured to occur only to one side (an upper side, for example) of the folded portion connected to the at least one movable part 14.

As recited in claim 11, Citizen shows a flexible cable 15, comprising: a first end (17 or 18) configured to be connected to a first part (12 or 11) and a second end (18 or 17) configured

to be connected to a second part (11 or 12) so as to transmit signals between the first and second parts, at least one (17) of the first and second parts being movable; and a folded portion (see Fig. 3 between α and β) in the form of a portion of the flexible cable between the first and second ends folded so that two opposing faces are in contact with each other (see appearance of folded portion in Fig. 3), two strips of cable extending from the folded portion in the same direction initially (see direction of 17 and 18 extending in Fig. 3), a first said strip 18 extending into a straight portion having the first end of the flexible cable and a second said strip 17 extending into a curved portion having the second end of the flexible cable being formed by the folding portion of the flexible cable, wherein a vertex of the curved portion 17 does not deviate from vertical alignment with the second end (see Fig. 3) prior to movement of the first end.

Regarding claim 12: A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, the claim is drawn to a flexible cable, and the intended use stated is direct connection to an optical pickup of a disk drive. The flexible cable of Citizen is a "general-purpose electric connection wire designed for electronic equipment" (see ¶ 0024) which is capable of being directly connected to an optical pickup of a disk drive.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 2-6, 8, 13-16, 18-22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Citizen (WO 03/017279 A1).

For convenience, the Examiner will refer to the text of English language equivalent EP 1426964 A1; however, the rejection is grounded upon the WIPO document.

Citizen shows a flexible cable as described above.

As recited in claim 2, Citizen is silent regarding a folded-state maintaining device configured to maintain a folded state of the folded portion.

As recited in claims 3-6, Citizen is silent regarding several specific folded-state maintaining devices.

Folded-state maintaining devices are known in the art as recited in claim 2. Specifically, adhesives, tapes, folded plates and clips with insertion slots are known as recited in claims 3-6.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a folded plate, clip or tape as a folded state maintaining device. The rationale is as follows: one of ordinary skill in the art would have been motivated to prevent unfolding so as to preserve the compactness of the device while avoiding interference with other parts of the device as was apparent to a person of ordinary skill in the art.

As recited in claim 8, Citizen is silent regarding whether an end of the folded portion of the flexible cable main body not connected to the at least one movable part is vertically aligned with the other part of the first and second part.

There is no invention in relocating known parts, when the functioning of the apparatus is not changed by the relocation. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed vertical alignment in the course of routine design choice. The rationale is as follows: one of ordinary skill in the art would have been motivated to experiment and optimize the location of parts when the functioning of the apparatus is not changed by relocation.

As recited in claim 13, Citizen shows a disk drive 1 comprising a main base 2, a pickup base 3 installed on the main base and provided with parts for recording and reproducing signals on and from a disk, including an optical pickup 8 linearly movable within a predetermined region; a board 11 fixedly installed on a side of the main base and configured to control driving of the parts including the optical pickup; and a flexible cable 15 having a folded portion (see Fig. 3 between α and β) in the form of a portion of a flexible cable main body folded so that two opposing faces are in contact with each other, wherein two strips of cable extend from the folded portion in the same direction (see direction of 17 and 18 extending in Fig. 3) and are connected, respectively, to the optical pickup and directly to the board so as to transmit signals therebetween.

As recited in claim 13, Citizen is silent regarding whether a strip of cable is connected directly to the optical pickup.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to directly connect the cable to the pickup. The rationale is as follows: one of ordinary skill in the art would have been motivated to directly connect the cable to the pickup in order to reduce a number of electrical connections, thereby increasing yields by reducing a risk of poor connections by reducing a number of connections as is known in the art.

Although motivation is one way to establish a rationale for obviousness, no specific teaching, suggestion, nor motivation to combine is required to establish a *prima facie* case of obviousness under 35 USC 103. KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007).

As recited in claim 14, Citizen shows a tray 3 configured to move inside and outside the main base 2 so as to move the disk between a loading position (see Fig. 3) and an unloading position (see Fig. 4).

As recited in claim 15, Citizen shows that the cable main body is divided into a straight portion 18 and a curved portion 17 with respect to the folded portion.

As recited in claim 16, Citizen arguably shows that the folded portion (see Fig. 3 between α and β) is formed adjacent one of the optical pickup 8 and the board 11.

However, even if Citizen were interpreted as not having the folded portion in this location, there would be no invention in relocating known parts, when the functioning of the apparatus is not changed by the relocation. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrive at the claimed location in the course of routine design choice. The rationale is as follows: one of ordinary skill in the art would have been motivated to arrive at the claimed location in the course of experimenting and optimizing the location of parts, absent any change in functioning of the apparatus due to the relocation.

Regarding claims 18-22: See rejection above for claims 2-6.

Regarding claims 24-25: See rejection above for claim 8.

Allowable Subject Matter

6. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-16 and 18-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dijkshoorn (US Pat. No. 5130499) shows a flexible circuit and a clip for holding the flexible circuit in the folded state (see Figs. 5-7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Mon & Fri, 9:30AM to 7:30PM, Tues-Thurs after 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne D. Bost can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Julie Anne Watko
Primary Examiner
Art Unit 2627

October 22, 2007
JAW

A handwritten signature in black ink, appearing to read 'Julie Anne Watko', with a long horizontal flourish extending to the right.